

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1.-36. (canceled).

37. (new): A chip comprising:

a substrate; and

an optical waveguide on said substrate,

wherein said optical waveguide has a curved part, and said substrate includes a surface having a curvature that substantially follows the curved part of said optical waveguide.

38. (new): A chip comprising:

a substrate; and

an optical waveguide on said substrate,

wherein said optical waveguide has a curved part, and said substrate includes a side surface having a curvature that substantially follows the curved part of said optical waveguide.

39. (new): The chip as claimed in claim 38, wherein said side surface includes a convex surface and a concave surface on opposing sides of the substrate, and the convex surface and the concave surface substantially follow the curved part of said optical waveguide.

40. (new): The chip as claimed in claim 39, wherein said convex surface and said concave surface have substantially the same curvature.

41. (new): The chip as claimed in claim 37, wherein said optical waveguide is an arrayed waveguide grating.

42. (new): The chip as claimed in claim 41, wherein said side surface has a curvature that substantially follows the curved part of said arrayed waveguides of said arrayed waveguide grating.

43. (new): The chip as claimed in claim 37, wherein said substrate is an arched shape.

44. (new): The chip as claimed in claim 37, wherein said surface includes a convex side surface and a concave side surface opposing said convex side surface, and said convex side and said concave side have substantially the same curvature.

45. (new): The chip as claimed in claim 37, said chip further comprising: reinforcement means mounted on at least a part of said chip.

46. (new): The chip as claimed in claim 45, wherein said reinforcement means is mounted on a narrow portion of said chip.

47. (new): The chip as claimed in claim 45, wherein said reinforcing means is a copper plate.

48. (new): The chip according to claim 45, wherein said reinforcing means has a shape substantially similar to the shape of said chip.

49. (new): The chip according to claim 45, wherein said reinforcing means is larger than said chip.

50. (new): The chip as claimed in claim 37, further comprising: an another chip bonded on the back of said chip.

51. (new): The chip as claimed in claim 38, further comprising: an another chip bonded to the back of said chip.

52. (new): The chip as claimed in claim 50, wherein said chip and said another chip are bonded by an adhesive.

53. (new): The chip as claimed in claim 51, wherein said chip and said another chip are bonded by an adhesive.

54. (new): A wafer comprising:

a plurality of chips,

wherein each said chip has an optical waveguide, and each said optical waveguide has a curved part, and an area of each said chip is delimited by a curved-line portion having a curvature that substantially follows the curved part of said optical waveguide of each said chip.

55. (new): A wafer comprising:

a plurality of chips,

wherein each said chip has an optical waveguide, and each said optical waveguide has a curved part, and the boundary of each said chip includes a curved-line portion having a curvature that substantially follows the curved part of said optical waveguide of each said chip.

56. (new): The wafer as claimed in claim 54, wherein each said chip is the same form.

57. (new): The wafer as claimed in claim 55, wherein each said chip is the same form.

58. (new): The wafer as claimed in claim 54, wherein each said optical waveguide includes an arrayed waveguide grating.

59. (new): The wafer as claimed in claim 55, wherein said each optical waveguide includes an arrayed waveguide grating.

60. (new): The wafer as claimed in claim 54, wherein the shape of each chip is an arcuate shape having two curved-line portions curved in the same direction, said chips are arranged at a predetermined spacing, and respective end portions of said chips are connected to two mutually parallel straight lines.

61. (new): The wafer as claimed in claim 55, wherein the shape of each chip is an arcuate shape having two curved-line portions curved in the same direction, and said chips are arranged at a predetermined spacing and respective end portions of said chips are connected to two mutually parallel straight lines.

62. (new): The wafer of claim 54, wherein the shape of each chip is a funnel shape obtained by dividing in half a rhombus having two-curved-line portions convexed in a direction moving away from each another, and said chips are arranged at a predetermined spacing and respective end portions of said chips are connected to two mutually parallel straight lines.

63. (new): The wafer of claim 55, wherein the shape of each chip is a funnel shape obtained by dividing in half a rhombus having two-curved-line portions convexed in a direction

moving away from each another, and said chips are arranged at a predetermined spacing and respective end portions of said chips are connected to two mutually parallel straight lines.

64. (new): A module comprising:

a chip including an optical waveguide;

fiber arrays connecting said chip;

a temperature control element for controlling the temperature of said chip;

a temperature detecting element for detecting the temperature of said chip; and

a case for accommodating said chip, said fiber arrays, said temperature control element

and said temperature detecting element,

wherein said optical waveguide has a curved part, and said substrate includes a side surface having a curvature that substantially follows the curved part of said optical waveguide.

65. (new): The module as claimed in claim 64, further comprising:

a support component inserted between said chip and said temperature control element.

66. (new): The module as claimed in claim 65, wherein said support component is metal plate.

67. (new): The module as claimed in claim 66, wherein said metal plate supports said chip.

68. (new): The module as claimed in claim 65, further comprising heat insulating columns inserted between:

said support and said component, and
said case.

69. (new): The module as claimed in claim 64, wherein said temperature control element is heater.

70. (new): The module as claimed in claim 67, wherein the metal plate is larger than the curved part of said optical waveguide.